

Project **GRAND RIVER BASIN REGIONAL GROUNDWATER MODEL**

Client **Grand River Conservation Authority (GRCA)**

Objectives

- Develop an integrated groundwater/ surface water model of the Grand River watershed. Evaluate the interaction between the river and the various aquifer systems in the basin.

Outcomes

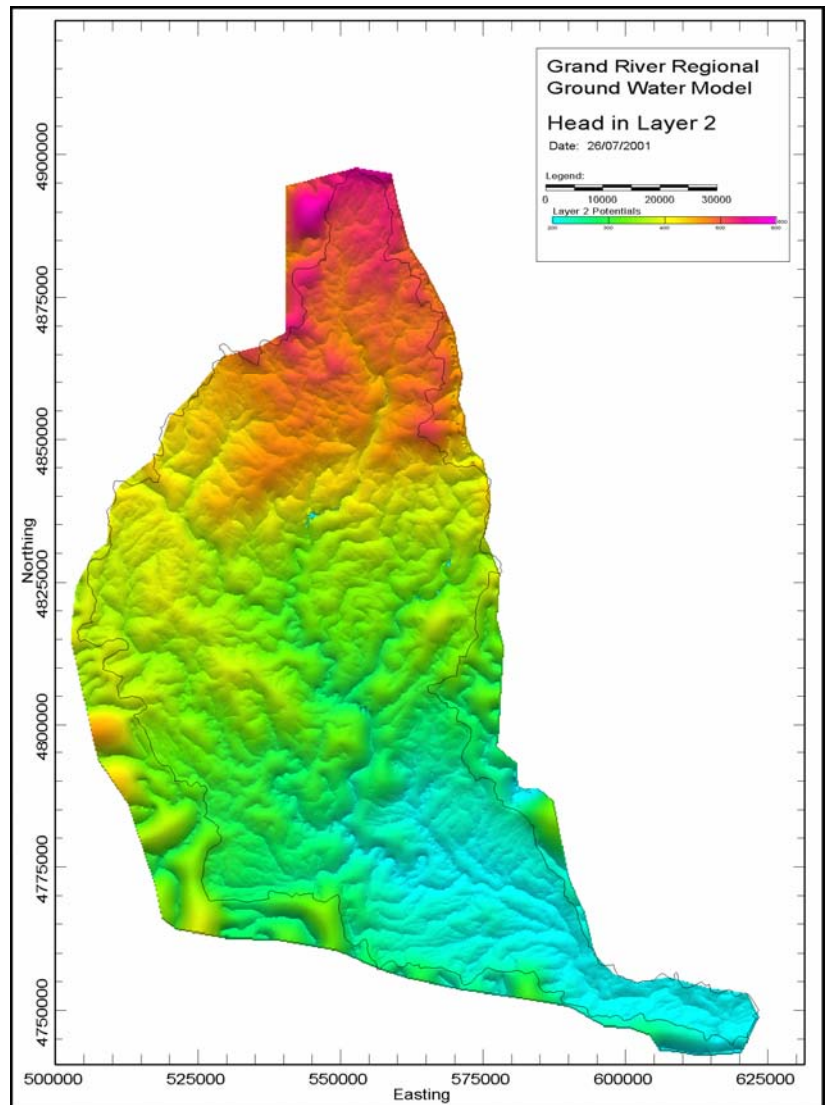
- A detailed understanding of the interaction between the river and the aquifer
- A useful management tool that allows GRCA staff to perform additional simulations

Key Aspects

- A well database that is fully integrated with the hydrogeologic model simulations
- An extensive aquifer-mapping project that was completed and published in 2001
- Extensive groundwater/surface water interaction
- Integration of multiple smaller-scale groundwater models

Project Description

Earthfx developed a regional-scale groundwater model for the GRCA. The model is based on a comprehensive groundwater database and resource mapping compilation performed in the VIEWLOG software system and supported by Earthfx Inc. The map compilation stage resulted in a comprehensive geologic database, plus 300-page interactive atlas that contains over 200 full-colour maps. The model incorporates the GRCA's extensive surface-water GIS information, which contains 153 catchments, with 31,000 classified stream and river segments.



A key aspect of the project is the integration of multiple smaller-scale models that have been completed in the GRCA. These include the Regional Municipality of Waterloo (RMOW) River Wells model, the Waterloo Moraine model, Cambridge and Guelph water-supply models, along with a number of smaller watershed-scale models. All of these models have been efficiently integrated into the GRCA regional VIEWLOG project.

